

Managing Expectations and Maximizing Patient Outcome with Cardiovascular Disease

Barret Bulmer, DVM, MS, DACVIM
Tufts Veterinary Emergency Treatment and Specialties
Walpole, WA

Veterinarians are often limited to drawing conclusions about a patient's response to therapy following a 15-minute examination within the confines of the veterinary hospital. Therefore collecting a thorough and accurate history from owners caring for pets with heart disease is vital to their appropriate medical management. Similarly technicians often perform vital roles as a point of contact, facilitator of a diagnostic plan and administrator of patient care. This lecture will review techniques to try and maximize outcome in animals with cardiovascular disease.

The history/assessment of clinical status

1. Have you recognized any coughing or increased respiratory rate/effort?

No matter the underlying etiology congestive heart failure is a common endpoint for patients with substantial underlying heart disease. Congestive heart failure is recognized as either pulmonary edema, pleural effusion or ascites depending on which side of the heart is afflicted. Fluid accumulation within the alveoli stimulates receptors that produce, in general, a non-productive cough, often accompanied with increased respiratory rate or effort. Interestingly many owners report this cough is worse in the evening hours when their pet is resting (in comparison to coughing subsequent to tracheal collapse that often occurs during leash walks, with excitement or with positional changes). Owners may identify that their dog is unable to lie down comfortably or their cat sits in sternal recumbency and is reluctant to move. With right-sided heart failure substantial volumes of ascites may accumulate, a finding that owners may have mistaken for weight gain.

2. Have you recognized any inappetence/reluctance to eat or weight loss?

Adequate nutritional support is important for pets with heart disease. In some instances we prescribe low sodium, and therefore sometimes less palatable, diets for patients with heart failure. Several of the medications we prescribe, i.e. furosemide, can reduce potassium concentrations if there is inadequate food consumption. Hypokalemia is of concern because it reduces the efficacy of our diuretics and may be associated with lethargy and worsening inappetence. Weight loss is important to document because many of our medications are prescribed on a patient's ideal body weight.

3. What time did you administer medications and do you need any refills?

Drugs used to treat cardiovascular disease have variable and sometimes prolonged (e.g. amlodipine) half-lives that influence the timing of events like blood sampling and blood pressure measurement. In many instances we can also determine the efficacy of a medication based on the physical examination and the timing of drug administration. The best example is the beta-blocker, atenolol. Beta-blockers like atenolol are effective at reducing the heart rate within approximately two hours of administration and often have limited efficacy by 12 hours. Therefore, a patient that has an elevated heart rate five hours after atenolol administration may very well need a higher dose to attain the target heart rate.

An equally important part of this question is whether the owner needs refills for their pet's medication. One of the most common causes for recurrence of heart failure is failure to administer the prescribed medications. Therefore, it is important to emphasize that although their pet appears stable and well compensated it is vital to continue their medical therapy.

4. Have you recognized any improvement in your pet's well being/clinical status?

Although it is rare that we are able to "cure" a pet's heart disease we can often very effectively reduce their clinical signs and improve their quality of life. If a diagnosis of heart failure has been made and the appropriate medications are administered the pet should display a reduction in their previous clinical signs. If there is no improvement or if there is progression of their disease process we are either a) not treating the appropriate disease or b) not treating the disease appropriately. It is important that we identify failure to respond to therapy so we can determine the appropriate diagnostic and therapeutic strategy.